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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,114

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Henrik Bagger Olsen

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EXAMINER

PENDLETON, DIONNE

ART UNIT

PAPER NUMBER

2615

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,114

Applicant(s)

OLSEN ET AL.

Examiner

Dionne H. Pendleton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) n/a is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/18/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-6, 14,15 and 22** are rejected under 35 U.S.C. 102(e) as being anticipated by **Bauman (US 6,807,445)**.

Regarding claim 1,

In Figure 2, Baumann teaches a hearing prosthesis comprising a microphone (14) adapted to generate an input signal in response to received acoustic signals, a data processor (28) adapted to process the input signal in accordance with a predetermined processing algorithm to generate a processed output signal (see column 7, lines 10-14), an output transducer (column 9, lines 55-58) for converting the processed output signal into a user perceivable output signal, rechargeable battery connections adapted to receive a rechargeable battery (see column 7, lines 65-67 and column 8, lines 65-66) and operatively connected to battery charging means, and connecting means (*see internal coil inherently provided in Figure 5, for inductive coupling to external coil*) for releasable [inductive] connection to an external power source (63) to provide charging power for the rechargeable battery wherein the hearing

prosthesis comprises memory means (see S0, S1, S2, S3, S4, S5 in Figure 3) storing charging control information associated with charging the rechargeable battery (see column 7, lines 43-46 for discussion of energy management).

Regarding claim 2,

In column 6, lines 49-58, Baumann teaches that said memory means comprise non-volatile memory means.

Regarding claim 3,

Baumann teaches in Figure 3, that said memory means are operatively connected to said data processor.

Regarding claim 4,

In column 6, lines 60-63 and column 7, lines 10-22, Baumann teaches that said memory means are arranged to contain instructions defining the predetermined processing algorithm.

Regarding claim 5,

In column 7, lines 25-40, Baumann teaches that data communication means for releasable establishing data communication with an external unit.

Regarding claim 6,

Baumann teaches a hearing prosthesis according to claim 5. In column 7, lines 44-45, Baumann teaches that microprocessor (36) communicates energy management

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information to an external unit, reading on “wherein the memory means is arranged to communicate charging control information to the external unit by means of the data communication means”, and further teaches in Figure 5, that the prosthesis comprises connecting means (internal coil) for connecting an externally provided charging current (64) to the rechargeable battery connections.

Regarding claim 14,

Baumann teaches in Figure 5, a hearing prosthesis according to claim 1, a charger unit (63) having connection means (64) for establishing releasable [inductive] connection to the connection means (internal coil) of the hearing prosthesis and means for providing charging power via said connection means.

Regarding claim 15,

In Figure 5, Baumann teaches that the hearing prosthesis comprises data communication means (internal coil) for releasable establishing data communication with the charger unit (63), and the charger unit comprises a charger data communication means (64) adapted to releasable establish data communication with the data communication means of the hearing prosthesis.

Regarding claim 22,

In Figure 5, Bauman teaches a wireless charger unit (63) which will inherently comprise a battery compartment adapted for holding one or more batteries to power the charger unit during charging cycles of a hearing prosthesis connected thereto.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 7-13 and 16-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauman (US 6,807,445)** in view of **Reipur (US 6,075,339)**.

Regarding claim 7,

Baumann teaches a hearing prosthesis according to claim 1, wherein the data processor is adapted to provide charging control instructions (see, column 7, lines 44-45). Baumann does not explicitly teach that the charging control instructions control the operation of charging current regulator means in accordance with the charging control information so as to control a charging cycle of the rechargeable battery.

In Figures 5, REIPUR teaches a battery system wherein the data processor (7) of a charger (50) provides charging control instructions to control the operation of charging current regulator means (3) in accordance with the charging control information (provided by the apparatus being charged, see microcontroller "41" in Figure 27) so as to control a charging cycle of the rechargeable battery.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Bauman and Reipur, for the purpose of accurately

controlling the charging process so as to obtain optimum charging while avoiding heat damage to the device.

Regarding claim 8,

The combined disclosures of Baumann and Reipur teach the hearing prosthesis according to claim 7, wherein the data processor (36) is arranged to communicate charging control instructions to the external unit by means of the data communication means, and Figure 5 of Baumann teaches that the prosthesis comprises connecting means (inductive coupling) for releasably connecting an externally provided charging current (64) to the rechargeable battery connections.

Regarding claim 9,

The combined teachings of Bauman and Reipur teach a hearing prosthesis according to claim 1, comprising charging current regulator means ("3" in Reipur) and Bauman teaches connecting means (inductive coupling) for releasable connection of an external charging power supply to the charging current regulator (see Figure 28, wherein charging control circuitry is integrated into the apparatus being charged).

Regarding claim 10,

Reipur teaches that the memory means ("10" in figure 5) is arranged to communicate charging control information to the external unit by means of the data communication means (see Figures 28) and the charging current regulator means (3) is arranged to receive charging control instructions from the external unit i.e., power supply, by means of the data communication means.

Regarding claim 11,

Reipur teaches in column 24, lines 10-14, lines 32-35 and lines 46-48, that the charging current regulator means comprises a resistor and processor controllable switch element such as bipolar or MOS transistor.

Regarding claim 12,

In column 17, lines 58-59, Reipur teaches that the charging current regulator means comprises a pulse width modulator for controlling a magnitude of a charging current applied to the rechargeable battery.

Regarding claim 13,

In Figure 5, Reipur teaches means (10) for recurrently storing data related to the charging and de-charging of said rechargeable battery in said memory means.

Regarding claim 16,

In Figure 27, Reipur teaches a rechargeable hearing prosthesis system according to claim 15, wherein the data processor (41) of the hearing prosthesis is adapted to provide charging control instructions (43) to control the operation of charging current regulator means ("3" in Figure 5) in accordance with the charging control information and communicate said charging control instructions to the charger unit by means of the data communication means (see bidirectional data transmission lines in Figures 26-28), and the charger unit is adapted to receive the charging control instructions from the apparatus being charged (i.e., hearing prosthesis of Baumann) and provide a charging

current to the hearing prosthesis via the charger unit connection means by means of a charging current regulator means ("3" in Figure 5) .

Regarding claim 17,

Baumann teaches a rechargeable hearing prosthesis system according to claim 15, wherein the hearing prosthesis is adapted to transmit the charging control information to the charger unit by means of the data communication means; In Figures 26 and 27, Reipur teaches that the charger unit (42) is adapted to receive the charging control information from the device being charged (40), the charger unit comprising a charging current regulator ("3" in Figure 5 of Reipur) adapted to provide a charging current to the hearing prosthesis via the charger unit connection means, and charging control means (8) adapted to control the operation of the charging current regulator means based on the received charging control information.

Regarding claim 18,

Figure 26 or Reipur teaches a rechargeable hearing prosthesis system according to claim 17, wherein the charging control means (8) of the charger (50) comprises a microprocessor adapted to control the charging current regulator means and/or the charger data communication means (see column 23, lines 57-60).

Regarding claim 19,

In column 25, lines 50-65, Reipur teaches a rechargeable hearing prosthesis system according to claim 17, wherein the charging control means (8) comprises a detection

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circuitry (600) for sensing whether or not a hearing prosthesis is connected to the charging circuitry.

Regarding claim 20,

The combined disclosures of Baumann and Reipur does not clearly teach that the charging control means of the charger comprises a default charging procedure for charging the rechargeable battery of the hearing prosthesis in case invalid or no charging control information is received. However, the Examiner takes Official Notice that it is well known in the art and would have been obvious to incorporate a default charging procedure for recharging batteries wherein no parameter data is provided, thereby making the charging device useful in more general applications.

Regarding claim 21,

Reipur teaches that the charger unit comprises DC voltage measuring circuitry for determining the DC voltage of a rechargeable battery of a hearing prosthesis connected thereto (see "abstract" lines 15-18), and the charging control means is adapted to control the charging procedure based on the measured DC voltage (see column 25, lines 66 – column 26, line 2).

3. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauman (US 6,807,445)** in view of **Leysieffer (US 6,198,971)**.

Regarding claim 23,

In column 7, lines 33-34, Baumann teaches the hearing system according to claim 15. Baumann does not clearly reach that the charger unit is adapted to reset the data processor of the hearing prosthesis.

LEYSIEFFER teaches, in column 8, lines 53-57, a hearing system similar to the device of Baumann wherein an external programming device (120) and charging device are integrated into a single housing. Therefore, the charger unit of Leysieffer may operate to alter or replace initial programming, reading on "adapted to reset the data processor of the hearing prosthesis by a command sent via the data communication means". It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Bauman and Leysieffer, integrating the external programming device (120) and charging device into a single housing, as an alternative design choice, thereby providing a more compact system having fewer parts.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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